

AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1. (Currently Amended) Growth method of nitride semiconductor epitaxial layer comprising:

a first step of growing a second nitride semiconductor epitaxial layer on a first nitride semiconductor epitaxial layer at a first temperature;

a second step of growing a third nitride semiconductor epitaxial layer on the second nitride semiconductor epitaxial layer at a second temperature;

a third step of releasing nitrogen from the second nitride semiconductor epitaxial layer by collectively increasing a temperature of the first nitride semiconductor epitaxial layer, the second nitride semiconductor epitaxial layer, and the third nitride semiconductor epitaxial layer,

wherein the second nitride semiconductor epitaxial layer releases nitrogen when its temperature reaches a third temperature higher than the second temperature,

wherein the first nitride semiconductor epitaxial layer and the third nitride semiconductor epitaxial layer retain their respective nitrogen when the second nitride semiconductor epitaxial layer reaches the third temperature,

wherein each of the first nitride semiconductor epitaxial layer and the third nitride semiconductor epitaxial layer is made of a material whose equilibrium vapor pressure of nitrogen is lower than that of the second nitride semiconductor epitaxial layer and

wherein the releasing nitrogen of the third step is made using the difference in the equilibrium vapor pressures of nitrogen at the third temperature; and

a fourth step of growing a fourth nitride semiconductor epitaxial layer on the third nitride semiconductor epitaxial layer after releasing nitrogen from the second nitride semiconductor epitaxial layer and before separating a first part which includes the first nitride semiconductor epitaxial layer from a second part which includes the third nitride semiconductor epitaxial layer.

Claim 2. (Cancelled)

Claim 3. (Original) The growth method of nitride semiconductor epitaxial layer of claim 1, the second nitride semiconductor epitaxial layer is converted into a metal layer in the third step.

Claim 4. (Cancelled)

Claim 5. (Original) The growth method of nitride semiconductor epitaxial layer of claim 1, wherein the second nitride semiconductor epitaxial layer is made of $\text{In}_x\text{Ga}_{1-x}\text{N}$ ($0.5 < x \leq 1$).

Claim 6. (Original) The growth method of nitride semiconductor epitaxial layer of claim 1, wherein the first and third nitride semiconductor epitaxial layers are made of $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 \leq x \leq 1$).

Claim 7. (Original) The growth method of nitride semiconductor epitaxial layer of claim 1, wherein the first temperature in the first step is in a range of 300°C to 800°C.

Claim 8. (Original) The growth method of nitride semiconductor epitaxial layer of claim 1, wherein the second temperature in the second step is in a range of 300°C to 800°C.

Claim 9. (Original) The growth method of nitride semiconductor epitaxial layer of claim 1, wherein the third nitride semiconductor epitaxial layer has a thickness in a range of 1 nm to 100 nm.

Claim 10. (Original) The growth method of nitride semiconductor epitaxial layer of claim 1, wherein the third temperature in the third step is 900°C or more.

Claim 11. (Original) The growth method of nitride semiconductor epitaxial layer of claim 1, wherein the first nitride semiconductor epitaxial layer is grown on a substrate.

Claim 12. (Original) The growth method of nitride semiconductor epitaxial layer of claim 11, wherein the first nitride semiconductor epitaxial layer comprises a buffer layer grown at a relatively low temperature and an un-doped GaN layer grown on the buffer layer.

Claim 13. (Original) The growth method of nitride semiconductor epitaxial layer of claim 1, further comprising:

a step of patterning the third nitride semiconductor epitaxial layer, prior to the third step.

Claim 14. (Currently Amended) The growth method of nitride semiconductor epitaxial layer of claim 3, further comprising the step of:

~~a step of separating [[a]] the first part including the first nitride semiconductor epitaxial layer~~
from the other second part including the third nitride semiconductor epitaxial layer.

Claims 15-19. (Cancelled)